

## **IN THE CLAIMS**

Please amend claims 15-17 and 30-56 as follows:

1-14 (Canceled)

15. (Currently Amended) A computerized system for detecting a semantic temporal event recorded on a media, said system comprising:

a computerized knowledge-based modeling unit for generating multiple-layer models for identifying said semantic temporal event recorded on the media;

a storage mechanism for storing said multiple-layer models;

an computerized observation collection unit for extracting, from at least one data source, temporal observations recorded on the media according to said multiple-layer models ~~for the semantic temporal event~~; and

a computerized temporal event detection unit for detecting one or more occurrences of the semantic temporal event based on said temporal observations and said multiple-layer models.

16. (Currently Amended) The computerized system according to claim 15, further comprising:

[[an]] a computerized event characterization unit for characterizing said occurrences of the semantic temporal event, detected by said computerized temporal event detector, to produce a characterization for the occurrences of the semantic temporal event.

17. (Currently Amended) The computerized system according to claim 16, further comprising:

a storage mechanism for storing the characterization produced by said event characterization unit;

[[an]] a computerized event prediction unit for performing temporal event prediction based on said characterization;

[[an]] a computerized event model updating unit for modifying said multiple-layer models based on said characterization; and

[[an]] a computerized event simulation unit for simulating parts of said semantic temporal event according to said characterization.

18 – 29 (Canceled).

30. (Currently Amended) The computerized system of claim 15, wherein the semantic event includes a sports event.

31. (Currently Amended) The computerized system of claim 30, wherein said sports event includes a soccer game.

32. (Currently Amended) The computerized system of claim 15, wherein said multiple-layer models include a high level domain-specific knowledge model and a dynamic hierarchical event model.

33. (Currently Amended) The computerized system of claim 32, wherein said high level domain-specific knowledge model includes rules of a sports game.

34. (Currently Amended) The computerized system of claim 32, wherein said dynamic hierarchical event model includes a hierarchical decision tree.

35. (Currently Amended) The computerized system of claim 32, wherein said dynamic hierarchical event model includes an entity-relationship-diagram.

36. (Currently Amended) The computerized system of claim 15, wherein said at least one data source includes at least one data acquisition device including a camera, a microwave sensor, a sound recorder, and an input data stream selected from the group consisting of video, audio, text, and temporal features.

37. (Currently Amended) The computerized system of claim 36, wherein said temporal features include tracking position data.

38. (Currently Amended) The computerized system of claim 15, wherein said at least one data source includes a data stream sent through a network connection.

39. (Currently Amended) The computerized system of claim 38 wherein the data stream is a video stream with synchronized audio track.

40. (Currently Amended) The computerized system of claim 15, wherein the computerized observation collection unit is simultaneously connected to more than one data source.

41. (Currently Amended) The computerized system of claim 15, wherein said computerized temporal event detection unit includes an integration unit, a detection unit, and a fusion unit, and said integration unit combines a plurality of observation streams from a plurality of data sources, the detection unit detects a same event using a plurality of detection means to produce a plurality of detection results, and said fusion unit fuses the plurality of detection results to produce a single detection decision.

42. (Currently Amended) The computerized system of claim 16, further comprising:

an event storage, in which detected occurrences of temporal semantic events are

stored;

an events statistics extractor to compute statistical information about the detected occurrences; and

an event statistics storage unit to store the statistical information.

43. (Currently Amended) A computerized system for detecting a semantic temporal event recorded on a media, said system comprising:

a computerized knowledge-based modeling unit for generating multiple-layer models for said semantic temporal event;

a storage mechanism for storing said multiple-layer models;

an computerized observation collection unit for extracting, from at least one data source, temporal observations according to said multiple-layer models for the semantic temporal event;

a computerized temporal event detection unit for detecting one or more occurrences of the semantic temporal event recorded on the media based on said temporal observations and said multiple-layer models;

[[an]] a computerized event characterization unit for characterizing said occurrences of the semantic temporal event, detected by said computerized temporal event detector, to produce a characterization for the occurrences of the semantic temporal event;

a storage mechanism for storing the characterization produced by said event characterization unit;

[[an]] a computerized event prediction unit for performing temporal event prediction based on said characterization;

[[an]] a computerized event model updating unit for modifying said multiple-layer models based on said characterization; and

an event simulation unit for simulating parts of said semantic temporal event according to said characterization.

44. (Currently Amended) The computerized system of claim 43, wherein the semantic event includes a sports event.

45. (Currently Amended) The computerized system of claim 44, wherein said sports event includes a soccer game.

46. (Currently Amended) The computerized system of claim 43, wherein said multiple-layer models include a high level domain-specific knowledge model and a dynamic hierarchical event model.

47. (Currently Amended) The computerized system of claim 46, wherein said high level domain-specific knowledge model includes rules of a sports game.

48. (Currently Amended) The computerized system of claim 46, wherein said dynamic hierarchical event model includes a hierarchical decision tree.

49. (Currently Amended) The computerized system of claim 46, wherein said dynamic hierarchical event model includes an entity-relationship-diagram.

50. (Currently Amended) The computerized system of claim 43, wherein said at least one data source includes at least one data acquisition device including a camera, a microwave sensor, a sound recorder, and an input data stream selected from the group consisting of video, audio, text, and temporal features.

51. (Currently Amended) The computerized system of claim 50, wherein

said temporal features include tracking position data.

52. (Currently Amended) The computerized system of claim 43, wherein said at least one data source includes a data stream sent through a network connection.

53. (Currently Amended) The computerized system of claim 52, wherein the data stream is a video stream with synchronized audio track.

54. (Currently Amended) The computerized system of claim 43, wherein the computerized observation collection unit is simultaneously connected to more than one data source.

55. (Currently Amended) The computerized system of claim 43, wherein said computerized temporal event detection unit includes an integration unit, a detection unit, and a fusion unit, and said integration unit combines a plurality of observation streams from a plurality of data sources, the detection unit detects a same event using a plurality of detection means to produce a plurality of detection results, and said fusion unit fuses the plurality of detection results to produce a single detection decision.

56. (Currently Amended) The computerized system of claim 43, further comprising:

an event storage, in which detected occurrences of temporal semantic events are stored;

an events statistics extractor to compute statistical information about the detected occurrences; and

an event statistics storage unit to store the statistical information.